REMARKS

Claims 1-16 are all the claims pending in the application. Of these, claims 2 and 4-16 are withdrawn from consideration.

Claim 1 is amended herein to recite that the polyalkylene glycol has a weight-average molecular weight of from 450,000 to 1,000,000 and by adding the recitation of "wherein the aqueous dispersion type pressure-sensitive adhesive composition has a property that when a pressure-sensitive adhesive product having a pressure-sensitive layer formed from the aqueous dispersion type pressure-sensitive adhesive composition is produced, the dewy or wet surface adhesive force thereof is 0.5 N/18 mm or more." The Amendment is supported by the results of the working examples of the present application as described in Table 1 and the paragraph bridging pages 16-17 of the specification as originally filed. No new matter is presented.

I. Response to Rejection

Claims 1 and 3 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by or, in the alternative, 35 U.S.C. § 103(a) as allegedly being unpatentable over Iijima et al or Rosenski et al.

Applicants respectfully traverse the rejections based on the following.

A. Regarding Iijima et al

The present invention is directed to an adhesive composition consisting essentially of a polyalkylene glycol having a weight-average molecular weight of from 450,000 to 1,000,000 in a specific amount of an acrylic polymer which excludes the adhesive composition of Iijima containing a low-molecular weight polyethylene glycol and polypropylene glycol, for example,

as essential components. To demonstrate that such components in the amount taught by Iijima et al would adversely affect the basic and novel characteristics of the present invention, the inventor has carried out a replication experiment wherein glycerol (as a water-soluble polyol) is added in 3% by weight and the results were provided in the Supplemental Declaration filed January 10, 2007. Further, to demonstrate that different kinds of acrylic polymers give similar results, three kinds of acrylic polymers with different compositions were adopted in the experiment.

In the Action dated April 11, 2007, the Examiner considered that Applicants have not provided a one-to-one comparison of the prior art and the presently claimed method sufficient to demonstrate the essential exclusion of the low MW polyglycol of lijima et al. The Examiner was further of the view that the only polymer emulsion produced in Applicant's disclosure or Declaration, "Pressure Sensitive Adhesive A", comprises a multi-stage polymer, yet the polymer emulsion used in Comparative Experiment 2 of the Declaration is not a multi-stage polymer.

The "acrylic polymer" of the present claims are not limited to those obtained by multi-stage polymerization. The results of the comparative experiments provided in the Supplemental Declaration under 37 C.F.R. § 1.132 filed on January 10, 2007 demonstrate that when a water-soluble polyol having low molecular weight (glycerin) is added despite the composition of the "acrylic polymer", the effect of the present invention is not obtained. Even when the acrylic polymer is prepared by multi-stage polymerization, when a water-soluble polyol having low molecular weight (glycerin) is added thereto, those skilled in the art recognize that the effect of the present invention cannot be obtained. Thus, it is not necessary to conduct experimentation

using a polymer prepared by multi-stage polymerization as the polymer for use in a comparative example. Moreover, Applicants are not required to compare the claimed invention with subject matter that does not exist in the prior art.[1] Thus, replication of the closest embodiment of Iijima et al, except for changing the amount of the polyalkylene glycol, is the proper comparison for establishing patentability of the present claims.

The only other difference is that ammonium lauryl sulfate is used as the surfactant in Comparative Experiment 2, whereas sodium lauryl acetate is the surfactant employed in Pressure Sensitive A. However, the object of comparative experiment 2 is to conduct a comparison in the case where the composition of the acrylic polymer is the same as that in working example of the invention of the present application, and therefore the results would not vary depending upon the surface active agent.

Further, amended claim 1 is limited to a polyalkylene glycol having a weight-average molecular weight of from 450,000 to 1,000,000, which range is not disclosed by Iijima et al with "sufficient specificity" to constitute an anticipation. Moreover, as shown in Table 1 and the Supplemental Declaration previously filed, the dewy or wet surface adhesive force in the case of using a pressure-sensitive adhesive composition of Iijima et al falls well below a force of 0.5N/18 mm as presently claimed. In this regard, Applicants consider that glycerin, i.e., a water-soluble polyol, added to each system imparts an adverse effect. Since the water-soluble polyol

[1] See MPEP § 716.02(e)(III) citing *In re Chapman,* 357 F.2d 418,148 USPQ 711 (CCPA 1966), holding that Applicant need not compare the claimed invention with a non-existent polymer suggested by a combination of references, as this would amount to a comparison of the results of the claimed invention with the results of the claimed invention.

has a low molecular weight, it is adsorbed on the surface of the emulsion particles, covering the particle surface. Under such conditions, the hydrophilic component (i.e., the water-soluble polyol) is also present on the surface of the pressure-sensitive adhesive. Thus, the moisture brought about by dewing on the surface of the adherend is energetically stabilized at the pressure-sensitive adhesive-adherend interface and therefore is not adsorbed into the interior of the pressure-sensitive adhesive. In this connection, due to the presence of a water layer at the pressure-sensitive adhesive-adherend interface, the resulting wet-surface adhesive is low. The same conclusion can be derived from the results of Comparative Experiments 2 and 3 of the present application.

The results of Comparative Experiments 2 and 3 of the present application show that only in the case of a high-molecular weight poly(alkylene glycol) as defined by the present claims, the glycol exists in an aggregated dispersed state without covering the particle surface (see Figure 1 attached to the Supplemental Declaration previously filed on January 10, 2007). Since these portions are particularly likely to absorb water, and are not present at the surface of the pressure-sensitive adhesive, the moisture brought about by dewing becomes energetically unstable at the interface between the adherend and the pressure-sensitive adhesive, and is thus absorbed into the interior of the pressure-sensitive adhesive. As a result, the water content at the interface between the adherend and the pressure-sensitive adhesive is reduced to enhance wet-surface adhesive force.

As previously pointed out, the present invention also differs from Iijima in that, in the present invention, a specific polyalkylene glycol alone can be incorporated into a specific acrylic water dispersion type pressure-sensitive adhesive to provide the effects of the invention.

Iijima describes that "when a water-soluble or water-swellable polymer alone is incorporated in an adhesive, a small moisture permeability can be imparted to the adhesive layer, but even if such a polymer is incorporated in a large quantity, an adhesive layer having a good moisture permeability cannot be obtained" (see column 2, lines 55 to 61). This passage instructs that Iijima's "polyethylene oxide with a molecular weight of 300,000 or more" or the like, which corresponds to Iijima's water-soluble or water-swellable polymer, is never used alone.

More specifically, Iijima discloses that the water-soluble polyol disclosed therein contains polyethylene glycol having a molecular weight of 1,000 or less and polypropylene glycol with a molecular weight of 1,000 or less (see column 3, lines 42 to 51). In addition, Iijima discloses that the water-soluble or water-swellable polymer contains polyethylene oxide with a molecular weight of 300,000 or more (see column 3, lines 57 to 63). Surely, Iijima's polyethylene glycol and polypropylene glycol are outside the molecular weight range of amended claim 1, i.e., from 450,000 to 1,000,000.

Regarding the difference between Iijima's polyalkylene oxide and Applicants' claimed polyalkylene glycol, Applicants comment as follows. Generally, polyalkylene oxide (polymerization of ethylene oxide) is designated as having a molecular weight larger than that of polyalkylene glycol (polymerization of ethylene glycol). Thus, Iijima's polyethylene oxide having a molecular weight exceeding 300,000 with no specified upper limit as set forth at

column 3, lines 62-63, is different from the claimed polyalkylene glycol having a molecular weight of from 450,000 to 1,000,000. That is, the molecular weight of Iijima's polyethylene oxide with no upper limit could well be in excess of 1,000,000.

Further, although Iijima discloses that the polyethylene oxide has a molecular weight of 300,000 or more, no basis for this molecular weight range is explained by Iijima, and no such polyethylene oxide is used in the working examples thereof, either. Thus, Iijima does not recognize criticality in the claimed molecular weight range of from 450,000 to 1,000,000.

Moreover, Iijima relates to a pressure-sensitive adhesive which is moisture permeable, with which skin eruptions or irritation is scarcely caused. The object as well as design concept of Iijima also differ from those of the pressure-sensitive adhesive of the present invention which simultaneously satisfies initial adhesion to already dewy surfaces and constant-load peeling property from the beginning.

In summary, a distinct difference between the present invention and Iijima is that Iijima essentially requires the addition of a low molecular weight water-soluble polymer. The test results presented in the previously filed Supplemental Declaration show that the presence of the low molecular weight water soluble-polymer of Iijima adversely affects the basic and novel characteristics of the present invention, such that the amendment to claim 1 employing the transitional language "consisting essentially of" excludes the adhesive composition of Iijima et al.

Another difference is that Iijima does not meet the claimed adhesive force of 0.5 N/18 mm or more as shown in the test data presented in Supplemental Declaration, of record.

Furthermore, Iijima's "polyethylene oxide with a molecular weight of 300,000 or more" does not anticipate the molecular weight range of amended claim 1, i.e., from 450,000 to 1,000,000.

Thus, in view of the above, and the test data presented in the Declaration submitted July 26, 2006 and Supplemental Declaration submitted January 10, 2007, it is respectively submitted that the present invention is neither anticipated nor obvious over Iijima.

B. Regarding Rosenski et al

The basis for rejection was that the claimed adhesive composition is unpatentable over the prior art adhesive composition prepared by a different process, absent evidence that the particular process of making (i.e., whereby the polyalkylene glycol is incorporated into the composition after polymerization of the acrylic polymer) results in a materially different product.

In paragraph 10 bridging pages 5-6 of the Office Action dated April 11, 2007, the Examiner did not consider the Declaration evidence to be persuasive.

In response, Applicants reiterate that the present invention is distinguishable from Rosenski et al. Claim 1 of the present invention recites that the polyalkylene glycol is incorporated into the composition in the form of an aqueous solution after the polymerization of the acrylic polymer, whereas in Rosenski et al addition occurs during polymerization.

Rosenski is characterized by emulsion-polymerizing monomers in the presence of a polyalkylene oxide plasticizer, while in the present invention, polyalkylene glycol is incorporated into the composition after polymerization. More specifically, in Example 4 (column 8), Rosenski describes that "in the case where PEG with a molecular weight of 8,000 is

added to an emulsion after polymerization, adhesive property is not imparted by the post addition of PEG". That is, Rosenski teaches away from the present invention in that addition of a polyalkylene oxide after polymerization in Example 4 of Rosenski sets forth an embodiment in which the desired effect is not achieved.

In contrast, according to the present invention, the polyalkylene glycol is incorporated in the form of an aqueous solution after the polymerization of an acrylic polymer, in order not to adversely affect the polymerization of an acrylic polymer. Namely, incorporation of the polyalkylene glycol in the form of an aqueous solution after polymerization of the acrylic polymer is a significant key factor for exhibiting the effect of the present invention. Concerning this aspect, the technique of the present invention and that of Rosenski are entirely different from one another.

Incorporating the polyalkylene glycol after polymerization of the acrylic polymer results in a difference in chemical structure, which difference in structure provides a composition having properties and an effect different from that of the composition of Rosenski.

Concretely, in Rosenski, the adhesive "monomers are polymerized in the presence of a water-soluble polyalkylene oxide polymer" (column 3, lines 54-57). That is, Rosenski uses the polyalkylene oxide polymer as a plasticizer *during the adhesive polymerization process*. The resulting polymer has a chemical structure different from that of the claimed invention where the polyalkylene glycol is incorporated after polymerization of the acrylic polymer.

This difference in mode of addition also affects the polarization reactivity, thus resulting in a failure to exhibit good initial adhesive force to a dewy surface as shown in the Supplemental

Declaration previously filed January 10, 2007. Regarding this last point, as discussed in further detail below, the test data presented in the Supplemental Declaration demonstrates that Rosenski in addition to Iijima also does not meet the claimed wet-surface adhesive force of 0.5 N/18 mm or more as required by amended claim 1. See page 12 of the Supplemental Declaration.

With respect to the content of the previously filed comparative experiment in the Supplemental Declaration, Applicants submit that the invention of Rosenski has been faithfully reproduced. The Examiner considered that a one-to-one comparison of the prior art has not been provided. However, the present invention is characterized in that polyalkylene glycol is added after polymerization of the acrylic polymer, which is clearly different from the invention of Rosenski where the acrylic polymer is polymerized in the presence of polyalkylene glycol. The difference between both inventions has been demonstrated by faithfully reproducing the invention of Rosenski and showing that the same effect (high dewy or wet surface adhesive force) as that of the present invention can not be obtained.

As shown in the Table at page 12 of the Supplemental Declaration, the wet-surface adhesive force of the product obtained from the replication of Example 1 of Rosenski et al resulted in a low value. The reason is that, since polymerization is conducted under the state where the polyoxyethylene plasticizer is incorporated, the polyoxyethylene plasticizer is adsorbed on the particle surface. Even when the materials are fabricated into a tape, the plasticizer is present in the surface of the pressure-sensitive adhesive, raising the hydrophilic nature of the surface of the pressure-sensitive adhesive. Consequently, when the tape is laminated with the wet surface of an adherend, moisture present between the adherend and the

surface of the pressure-sensitive adhesive is energetically stably. Namely, the moisture is not absorbed into the interior of the pressure-sensitive adhesive, resulting in a low wet-surface adhesive force.

In the present application, the objective is achieved by restricting the MW of the lower limit of the hydrophilic polymer to 450,000, and further by adding the polymer after polymerization, thus suppressing the migration of the hydrophilic polymer to the surface of the pressure-sensitive adhesive.

Additionally, Rosenski does not teach the molecular weight recited in the present claims. Rosenski teaches the use of a polyalkylene oxide plasticizer with a molecular weight of larger than 3,000, and preferably greater than 5,000 but has no description of the molecular weight of the acrylic polymers at all.

Still further, Rosenski relates to "a pressure-sensitive adhesive which is used for paper products, and can be dispersed again in water when the paper product is recycled to give regenerated pulp". Thus, Rosenski's objective as well as design concept are different from those of the present invention which provides a pressure-sensitive adhesive simultaneously satisfying initial adhesion to dewy surfaces and a constant-load peeling property.

Accordingly, Rosenski et al provides a different formulation for a purpose completely different from that of the present invention, and neither anticipates nor renders obvious the presently claimed invention.

In view of the above, Applicants submit that the present invention is neither anticipated nor obvious over Iijima et al or Rosenski et al. Accordingly, Applicants respectfully request

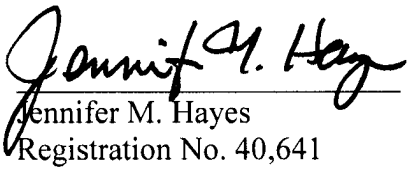
withdrawal of the rejection.

II. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Jennifer M. Hayes
Registration No. 40,641

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860
WASHINGTON DC SUGHRUE/265550
65565
CUSTOMER NUMBER

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